BOARD MEETING DATE: May 3, 2013 AGENDA NO. 22

REPORT: Mobile Source Committee

SYNOPSIS: The Mobile Source Committee met Friday, April 19, 2013 Following is a summary of that meeting.

RECOMMENDED ACTION:
Receive and file.

Dr. Clark E. Parker, Sr., Chair
Mobile Source Committee

EC:fmt

Attendance

Dr. Parker *(via videoconference)* called the meeting to order at 9:04 a.m. Dr. Joseph Lyou and Councilman Ben Benoit were present. Present via videoconference was Councilwoman Jan Perry. Supervisor Shawn Nelson was absent.

Dr. Parker announced that two individuals were in attendance via videoconference to address the Committee on Agenda Item #2.

The following items were presented:

INFORMATIONAL ITEMS:

1) Summary of the "Transitioning to Zero-Emission Freight Transport Technologies" Symposium

Mr. Henry Hogo, Assistant Deputy Executive Officer, provided a summary of a two-day technology symposium, which was held on April 10-11 at the SCAQMD's Diamond Bar headquarters, on the state of technology development of zero- and near-zero emission technologies in the goods movement sector. The objective of the symposium is to provide an update on technology development, challenges that technology providers see to commercialize the technology, and timelines for commercialization given the challenges. The focus was on goods movement related sources including on-road trucks, yard trucks, locomotives, marine vessels, and other cargo handling equipment operating at marine ports. The symposium was co-hosted by the South Coast AQMD, San Joaquin Valley

Air Pollution Control District, California Air Resources Board, and U.S. Environmental Protection Agency, Region 9. There were over 200 attendees over the two-day period.

On the first day, opening remarks were provided by the four agencies, followed by presentations on on-road truck/yard truck technologies. Presenters discussed the state of technology development relative to dedicated battery-electric yard truck development, fuel cell/hybrid and natural gas/hybrid trucks, extended range catenary trucks, and the next generation of natural gas engine development. Staff indicated that many of the zero-emission technologies are currently being demonstrated at the Port of Los Angeles and by drayage truck companies. Relative to the natural gas/hybrid truck development, technology-provider representatives (Capstone and ICR Tech) indicated that their technologies use natural gas-powered microturbines, which have NOx emissions levels that are around 75% cleaner than the current heavy-duty engine exhaust emission standard. Staff also discussed the recent Board-approved project to develop overhead catenary-powered trucks that have the flexibility to run on conventional combustion engines and automatically connect to overhead catenaries where available.

The morning session on the second day focused on locomotive technology development that can achieve greater NOx emission reductions than the cleanest mandatory Tier 4 locomotive exhaust emission standards. The two major U.S. locomotive engine manufacturers (GE and EMD) discussed their efforts to develop LNG-powered locomotives, given the economic case for the use of natural gas. Staff indicated that the current LNG locomotive development efforts are to produce Tier 3 emission level LNG locomotives, and Tier 4 LNG locomotives will not be available until the 2017 timeframe according to the two locomotive manufacturers. Staff believes that, given the inherently cleaner nature of natural gas compared to diesel, the LNG locomotives will have somewhat lower NOx emissions compared to their diesel counterparts; however, further development and demonstrations will be needed. A leading locomotive manufacturer (Bombardier) provided an overview of the use of electric locomotives powered by overhead catenaries in Europe and Asia. Bombardier indicated that the electric locomotives have been in wide use in Europe, and Asia is beginning to deploy electric locomotives. The electric locomotives have an equivalent 13,000 hp capability compared to a typical 4,000 to 5,000 hp line-haul locomotive used in the U.S. Staff discussed the development of battery/hybrid and fuel cell locomotives and concepts for developing a “battery” tender that can provide an external source of power to the electric motor in the locomotive.

Lastly, staff discussed the development of linear drive technologies using permanent magnets. The technology is currently being demonstrated at the Seattle Seaport.

The afternoon session on the second day focused on port-related sources and actions the Ports of Los Angeles and Long Beach have taken to deploy zero- and near-zero emission technologies for cranes and other cargo handling equipment. Lastly, a discussion of demonstration projects to reduce emissions from ocean-going vessels was provided.

Staff noted that, at the end of each day, there were roundtable discussions of the day's presentations. In summary, many of the technology providers indicated that the challenge to commercialization is providing an economic case to the end user, given the additional cost of the advanced technologies. Staff indicated that the presentations and the webcast are available on the SCAQMD website. The information provided will be valuable as staff develops the 2015 AQMP and the development of the "Sustainable Freight Strategy" currently underway at CARB.

There were several clarification questions from the Committee members including the use of natural gas/hybrid technologies and regarding the infrastructure cost associated with locomotive electrification. In addition, the Committee members and staff discussed the history of LNG locomotive demonstration and other activities to demonstrate aftertreatment technologies for locomotives in the South Coast Air Basin. A question was asked regarding the performance of sea water scrubbers on marine vessels. Staff indicated that according to the Ports, the scrubbers have been working and providing around 70% reduction in particulate matter. The ports are interested in funding a second sea water scrubber technology.

2) Status Report on 2007 PM2.5 State Implementation Plan Partial Disapproval

Mr. Joe Cassmassi, Planning & Rules Manager, provided an update on the status of U.S. EPA's disapproval of the contingency measures submittal of the 2007 Annual PM2.5 AQMP. The Federal Register publishing on January 9, 2012, set in motion the sanction clock for a July 9, 2013 increase in the offset ratio from 1.2:1 to 2:1 and a January 9, 2014 withholding of transportation funds pending no resolution in the disapproval of the contingency measures. As pointed out by Chief Deputy Counsel Barbara Baird, at the completion of the 24-month period, the potential would also exist for U.S. EPA to commence the development of a Federal Implementation Plan to achieve the required emissions reductions. In October 2011, the Governing Board adopted revisions to the 2007 AQMP that outlined a series of emissions reductions from new and existing rules where emissions reductions exceeded State Implementation Plan commitments, fleet turnover and surplus emissions reductions identified from the attainment

demonstration. Recent discussions have occurred with U.S. EPA in which EPA have provided comments on the 2011 AQMP revision to ask SCAQMD to both update the contingency commitment and the 2012 Reasonable Further Progress (RFP) precursor emissions. In response to U.S. EPA's comments, staff has prepared a clarification letter to U.S. EPA that updated the RFP emissions and provided a refined summary of the previously described emissions reductions. U.S. EPA plans to take action on the disapproval before the July 9, 2013 deadline, with public comments. Staff is continuing to work closely with U.S. EPA on this issue.

Dr. James Enstrom, former research faculty member at UCLA, expressed his concern with the peer review and hearing process on the health impacts of particulate matter for the AQMP. He expressed his belief that the PM2.5 National Air Quality Standards do not recognize the evidence that there is no relationship between particulate matter and total mortality in the South Coast, and that further reductions in PM2.5 in the South Coast Air Basin are not justified. Dr. Enstrom requested that Dr. Wallerstein facilitate a hearing whereby this evidence can be presented to U.S. EPA; and that Dr. Wallerstein respond to the concerns that he outlined in a February, 2013 email to Supervisor John J. Benoit. Dr. Enstrom also submitted written materials. Professor Matthew Malkan, UCLA Astronomy faculty, also expressed his concern with the peer review and hearing process on the health impacts of particulate matter. Dr. Wallerstein noted that these issues were raised as part of the public record relative to the adoption of the 2012 AQMP, and were also fully addressed by staff in their written responses in the 2012 AQMP as well as public workshops. He also noted that after extensive review, including peer review with experts across the country and with an opportunity for public comment, the federal government has determined that particulate matter causes very serious health effects, including in the South Coast.

At Dr. Wallerstein's request, Jean Ospital, Health Effects Officer, summarized U.S. EPA's process for developing the federal standards. Dr. Parker suggested that staff prepare a published document summarizing SCAQMD's peer review process.

Councilwoman Perry left the meeting at 9:55 a.m.

WRITTEN REPORTS:

3) Rule 2202 Activity Report
Written report submitted. No comments.

4) Monthly Report on Environmental Justice Initiatives – CEQA Document Commenting Update
Written report submitted. No comments.

OTHER BUSINESS:
None

PUBLIC COMMENT:
None

The meeting was adjourned at 10:16 a.m.

Attachment
Attendance Roster

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
MOBILE SOURCE COMMITTEE MEETING
Attendance Roster- April 19, 2013

NAME		AFFILIATION
Chair Clark E. Parker, Sr.		AQMD Governing Board *(via videoconference)*
Vice Chair Joseph Lyou		AQMD Governing Board
Committee Member Ben Benoit		AQMD Governing Board
Committee Member Jan Perry		AQMD Governing Board *(via videoconference)*
Danielle Fasse		Southern California Edison
Thomas Gross		Southern California Edison
David Rothbart		Los Angeles County Sanitation District
Susan Stark		BP Consultant
Lee Wallace		SCG/SDG&E
Jonathon Parsons		Earthguard
James Enstrom		Independent Scientist *(via videoconference)*
Matthew Malkan		UCLA *(via videoconference)*
Barry Wallerstein		AQMD Staff
Elaine Chang		AQMD Staff
Barbara Baird		AQMD Staff
Matt Miyasato		AQMD Staff
Henry Hogo		AQMD Staff
Philip Fine		AQMD Staff
Jean Ospital		AQMD Staff
Joe Cassmassi		AQMD Staff
Dean Saito		AQMD Staff
Naveen Berry		AQMD Staff
Sam Atwood		AQMD Staff
Antonio Thomas		AQMD Staff
Kim White		AQMD Staff